



Swift data access

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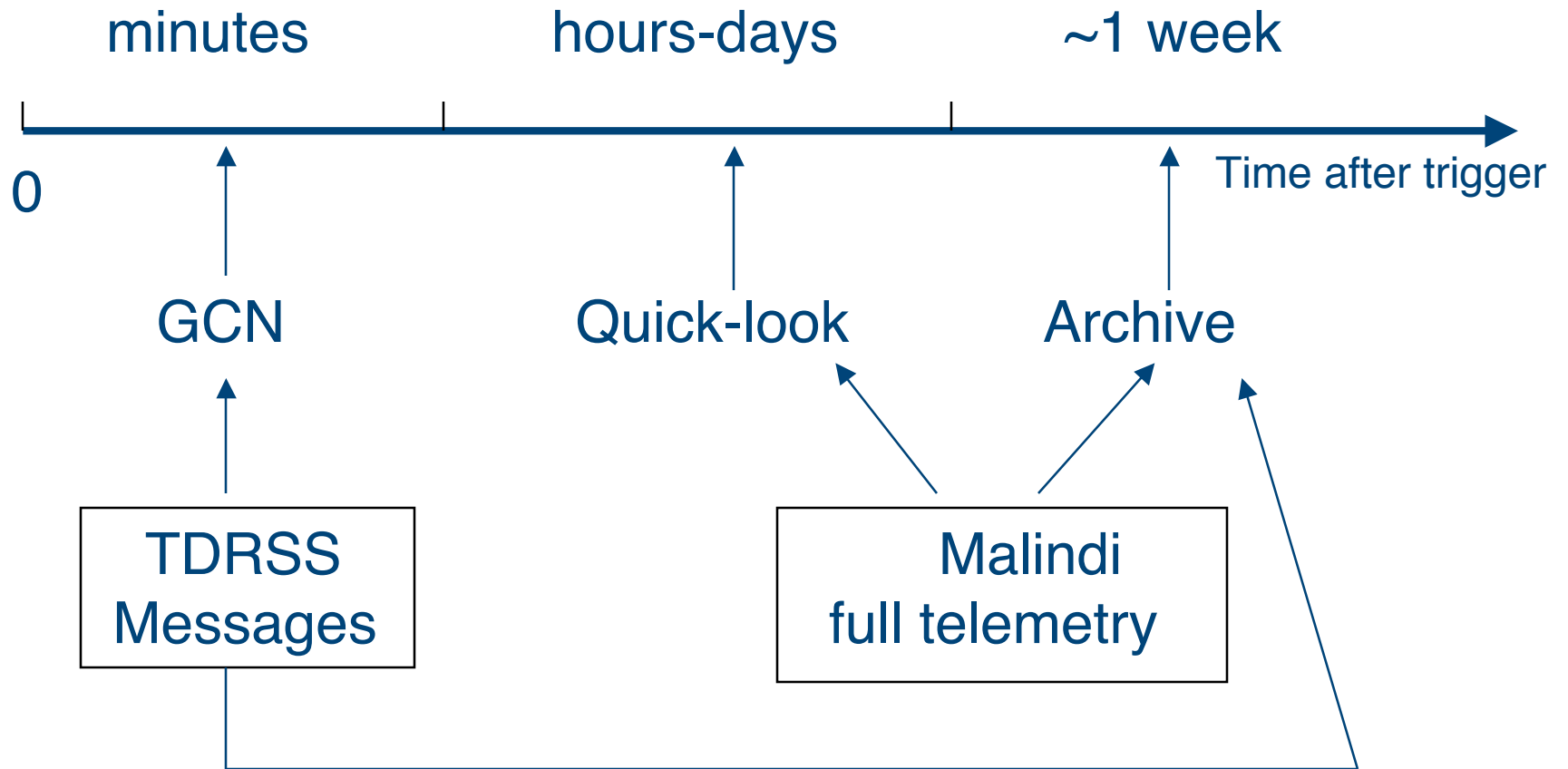
Outline

- Data access
 - When the data are available
 - Where the data are available
 - What data are available
- Calibration data & distribution
- Software distribution
- Contributed data : AKBAR system

Watch the life of a GRB unfold in “quasi” real time



When / Where /What





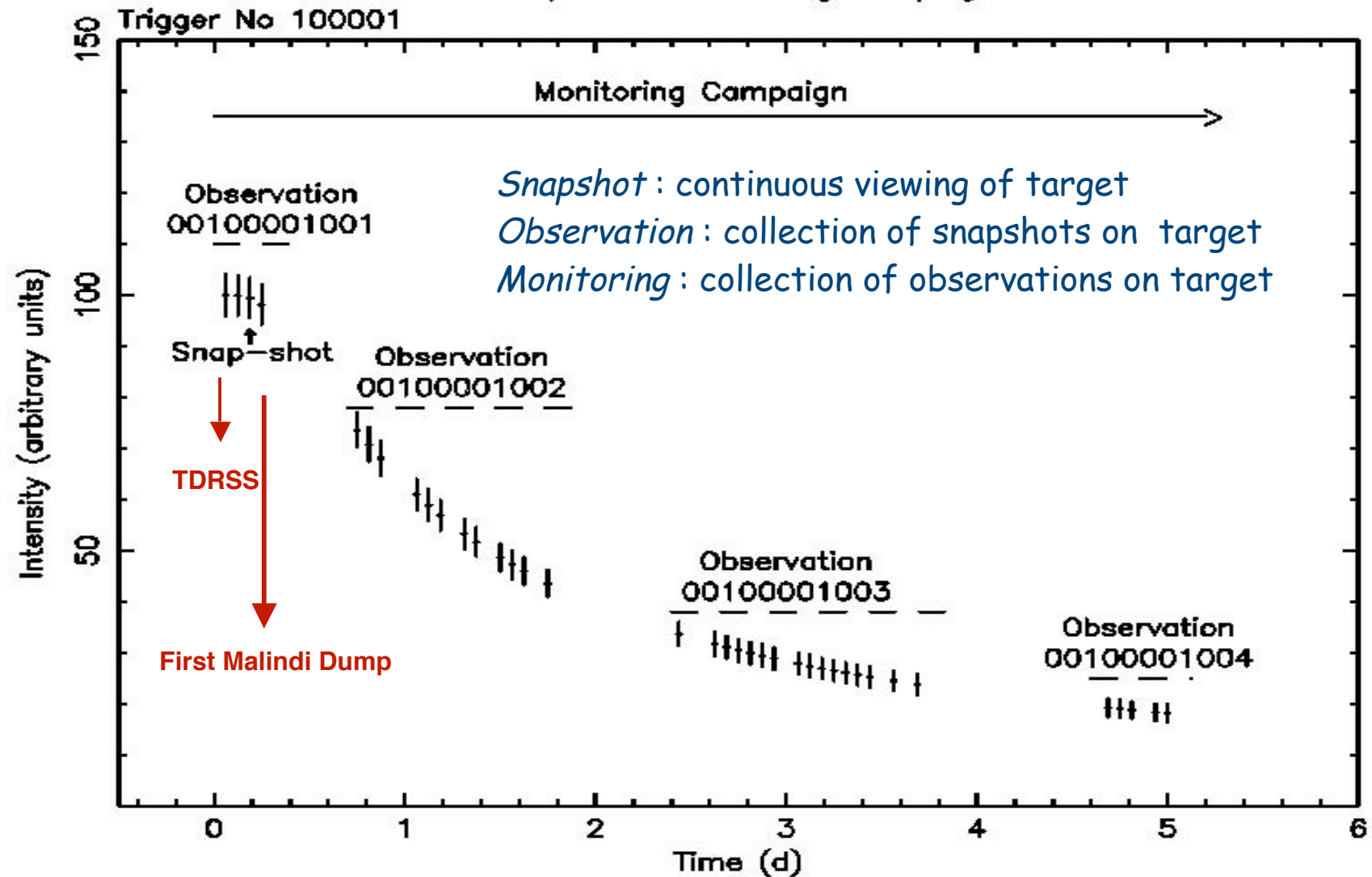
When data are available

- Data are downloaded via :
 - TDRSS. Series of messages after a trigger is detected on board.
 - broadcast via the GCN (minutes)
 - later archived as part of the final Swift archive (< a week)
 - Malindi. All the telemetry. About 6 -7 download per day
- Two processing types of the Malindi data (same pipeline software)
 - Quick look:
 - Data processed every Malindi dump, e.g. the same observation is re-processed when new data arrive.
 - Data public in few hours after each dump (from the SDC).
 - Permanent archive:
 - Final processing after all telemetry for an observation is available (~ a week)
- No proprietary period for data except for the activation and verification phase (~4.5 months) where data are encrypted



GRB Observations

Sample GRB Monitoring Campaign





Where data are available

TDRSS messages via GCN.

- Subscribe to the GCN: instructions at
<http://gcn.gsfc.nasa.gov/invitation.html>

Malindi data : Quick-look area

<http://swift.gsfc.nasa.gov/cgi-bin/sdc/ql?>

Malindi data : Archive three sites host the Swift data

<http://heasarc.gsfc.nasa.gov> in USA

<http://swift.asdc.asi.it> in Italy

<http://www.src.le.ac.uk/projects/swift> in UK

* Data will be encrypted during the verification phase

-



Swift Quick-look interface

HEASARC HOME | SWIFT HOME | ARCHIVE | DATA ANALYSIS | PROPOSALS & TOOLS | EDUCATION & PUBLIC INFO

Swift: Catching Gamma-Ray Bursts on the Fly

ABOUT SWIFT | QUICKLOOK DATA | GCN | SWIFT RESULTS | SCHEDULES & ST

Swift Quick-Look Data

Fri Sep 3 17:19:23 2004 GMT

HEASARC HOME | SWIFT HOME | ARCHIVE

Swift: Catching Gamma-Ray Burst

ABOUT SWIFT | QUICKLOOK DATA | G

Capability to select :

- File
- Directory
- Everything

Download a tar file

Instructions:

- Click on a sequence number to access data for that sequence.
- Click on a column header to sort the table by that column.
- Rows with a gray background have been replaced by a more recent reprocessing.
- After one week the data are archived at HEASARC, ISAC, and UKDC and removed from this list.
- The columns are described at the bottom of the table.

Sequence	Version	Object	Observed	Processed	Comments
0000000040	003	Safe Hold	2004-08-28T03:52:58	2004-08-29	new data: moc2004
00000001304	010	Safe Pointing 1	2005-12-19T15:59:05	2004-08-15	new data: moc2004
00000001322	001	Safe Pointing 1	2004-08-26T01:01:08	2004-08-26	new data: moc2004
00000002273	061	Safe Pointing 2	2005-12-19T16:33:27	2004-08-15	new data: moc2004
00000002295	001	Safe Pointing 2	2004-08-25T23:52:27	2004-08-26	new data: moc2004
00000003306	001	Safe Pointing 3	2004-08-26T00:29:58	2004-08-26	new data: moc2004
00000004323	005	Safe Pointing 4	2004-08-25T01:14:36	2004-08-26	new data: moc2004

Safe Hold - Sequence: 00000000403 Version: 003

[This page contains encrypted data](#)

You have registered the correct password/encryption key

You have the following download options:

- ☒ Automatically unpack the data using a Java applet
- ☐ Download a tar file.

Select files below, then click this button to download the data:

☐ All Files

☐ aux

- ☐ [sw00000000403_003_job.par](#) ASCII 2 kB (level 1) Job parameter file
- ☐ [sw00000000403_003_process.par](#) ASCII 3 kB (level 1) Processing parameter file
- ☐ [sw00000000403_input.cat](#) FITS 2 kB FRF input catalog
- ☐ [sw00000000403_tape.cat](#) FITS 2 kB (level 1) FITS format tape contents
- ☐ [sw00000000403pcs.txt](#) ASCII 1 kB (level 1) Site independant checksum file
- ☐ [sw00000000403stf.fits](#) FITS 2 kB (level 1) UTC corrections file

☐ log

- ☐ [sw00000000403bir.html](#) HTML 1 kB (level 1) HTML exposure report
- ☐ [sw00000000403per.html](#) HTML 1 kB (level 1) HTML processing error index
- ☐ [sw00000000403pfi.html](#) HTML 1 kB (level 1) HTML file list
- ☐ [sw00000000403pin.html](#) HTML 1 kB (level 1) HTML Processing index

<http://swift.gsfc.nasa.gov/cgi-bin/sdc/ql?>



Swift archive access interfaces

- HEASARC Browse
- Dedicated Swift archive access page :
 - It is a front end to the HEASARC Browse
 - Easy way to get data via GRB name resolver
 - Post news on the archive
 - Link to the other Swift archive DC, Quick look area & the GCN
 - Initiate an NVO query
 - Query outputs from Browse and the Swift archive page will be identical
- Anonymous FTP
(<ftp://heasarc.gsfc.nasa.gov/swift>)



Swift archive interface (1)

HEASARC HOME | **SWIFT HOME** | ARCHIVE | DATA ANALYSIS | PROPOSALS & TOOLS | EDUCATION & PUBLIC INFO

Swift: Catching Gamma-Ray Bursts on the Fly

U.S. site
Italian site
U.K. site

ABOUT SWIFT | QUICKLOOK DATA | GCN | SWIFT RESULTS | SCHEDULES & STATUS | RELATED SITES

Browse Home | Browse: Swift Mission

GRB Name Coordinate Resolver:

All Bursts | 1992 | Select Year | Select a Month

Selecting a GRB will fill in target id or coordinates below. Click Quick Search or continue to fill in search criteria.

Quick Search

GRB Name Coordinate Resolver:

All Bursts | Select Year | Select a Month

Selecting a GRB will fill in target id or coordinates below. Click Quick Search or continue to fill in search criteria.

Quick Search

Reset | Start Search | Query the SWIFT tables using parameters set below

Target id: (e.g. 100001)

Observation Dates: YYYY-MM-DD hh:mm:ss or MJD: DDDDD.ddd

The time portion of the date is optional. Separate multiple dates/ranges with semicolons (;). Range operator is '..' (e.g. 1992-12-31; 48980.5; 1995-01-15 12:00:00; 1997-03-20 .. 2000-10-18)

Object Name Or Coordinates: 160.652, 34.308 J2000

(e.g. Cyg X-1 or '12 00 00, 4 12 6') Use semi-colons (;) to separate multiple object names or coordinate pairs (e.g. Cyg X-2; 12.235, 15.345)

Search Radius: Default arcmin

Default uses the optimum radius for each catalog searched.

Select one or more tables below. Click table name to go directly to Table Parameter Search Form

Observation Logs: ☒ Master Log ☐ BAT Log ☐ UVOT Log ☐ XRT Log

☐ TDRSS Log

Source Catalogs: ☐ Swift Gamma-ray Bursts Catalog

Start Search | Query the SWIFT tables using parameters set above

NVO Search (coordinate search only)

NVO National Virtual Observatory. Hosted at the HEASARC

Note: Inventory request completed

RA	Dec	Size
10 42 36.48	+34 18 28.8	0.25

☐ Check All

Images (FITS/GIF)

Optical ☐ DSS1 SV ☐ DSS1 ☐ DSS2 ☐ DSS2B ☐ DSS2IR

Infrared ☐ 2MASS-H ☐ 2MASS-K ☐ 2MASS-J ☐ 2MASS GL(24)

Radio ☐ FIRST ☐ NVSS ☐ WENSS ☐ NED(2)

X-ray ☐ RASS B

Observations (VO Table)

X-ray ☐ ROSAT(1) ☐ ROSPUBLC(1)

Objects (VO Table)

Surveys ☐ GSC1(38) ☐ GSC2.2(283) ☐ USNO-A2.0 CDS(440)

Galaxies ☐ PGC(1) ☐ NGC(1) ☐ RC3(1) ☐ UGC(1) ☐ MCG(1)

Stars ☐ HIP(1) ☐ SAO(2) ☐ AC2000.2(14) ☐ ASCC-2.5(12) ☐ HD(1)

Misc. ☐ RADIOMST(76) ☐ Radio Catalogs(116) ☐ CEDAG(2) ☐ 2MASS-PSC(CDS)(245) ☐ TYCHO-2(11)

Analyze data in Aladin

Analyze data in OASIS

Download selected data

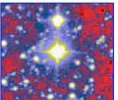


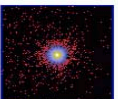
Swift archive interface (2)

[Browse Home](#) Main [Tip Archive](#) [Hera](#) [HELP](#)

[Main Search Form](#) > [Search Results](#) > Choose Data Products

Images generated by [SkyView](#)
Click on image to see full [SkyView](#) image


DSS Optical image, 2.83"


RASS X-ray image, 75.0"

Images centered on requested position

Search was based on:

Object/Coordinates:
resolved by SIMBAD (local cache) to [19 58 21.68, +35 12 05.8]

Comment: *cyg x-1* is not known to the NED resolver.

Coord. System: Equatorial, equinox 2000

Maximum Rows: [Redisplay](#) as [Printer-Friendly Version](#)

Search Radius: arc minutes [Reset](#)

[Reissue query](#)

Browse Tip: Do you know how to find all x-ray observations available for an object? [Learn more on this topic](#) or [See all tips](#)

[Swift Observation Log \(swiftobs\)](#)

Select [Related Links](#) [Services](#)

	name	obs number	ra	dec	start time	processing status	processing date	xrt exposure	uvot exposure
<input checked="" type="checkbox"/> BXU ORNS	GRB031010	00100001003	19 58 21.68	+35 12 05.8	2002-04-10 06:34:56	processed	2002-04-17	20000.2	15000.2
<input checked="" type="checkbox"/> BXU ORNS	GRB031010	00100001002	19 58 21.68	+35 12 05.8	2002-04-06 16:34:56	processed	2002-04-13	10000.8	8000.9
<input checked="" type="checkbox"/> BXU ORNS	GRB031010	00100001001	19 58 21.68	+35 12 05.8	2002-04-05 12:34:56	processed	2002-04-12	900.9	800.1

3 rows retrieved from swiftobs

1. Select the checkboxes for the rows of interest above,
2. un-check any data products you are not interested in:

Do you want to ☐ [Plot](#) your rospublic results? ([help](#))

Do you want to ☐ [Cross-correlate](#) your rospublic results with another catalog or table? ([help](#))

Data Products available for rospublic

☒ All

3. then click a button below.

[Preview and Retrieve](#) data products for selected rows

[Retrieve](#) data products for selected rows

[Save to Hera](#) data products for selected rows

[What is Hera?](#)

[Browse Home](#) Linked [Tip Archive](#) [Hera](#) [HELP](#)

[Choose Tables](#) > [Search Results](#) > Choose Data Products

[Redisplay](#) as [Printer-Friendly Version](#) [Reset](#)

[Swift XRT Instrument Log \(swiftxrtlog\)](#)

Select	Services	target id	obs number	ra	dec	start time	integration time	window size	operation mode	spacecraft mode
<input checked="" type="checkbox"/> ORNS		100001	00100001001	19 58 21.68	+35 12 05.8	2002-04-05 12:34:56	660	xrt_winsize#1	xrt_mode#1	spacecraft_mode
<input checked="" type="checkbox"/> ORNS		100001	00100001001	19 58 21.68	+35 12 05.8	2002-04-05 12:46:56	3240	xrt_winsize#1	xrt_mode#1	spacecraft_mode
<input checked="" type="checkbox"/> ORNS		100001	00100001001	19 58 21.68	+35 12 05.8	2002-04-05 13:40:56	7200	xrt_winsize#2	xrt_mode#1	spacecraft_mode

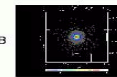
[Browse Home](#) Data Products for selected rows [Tip Archive](#) [Hera](#) [HELP](#)

[Choose Data Products](#) > Retrieve Data Products

- Do you want to view a data product? Click on its hyperlink.
- Do you want to retrieve data products in a tarfile? Check the boxes beside each product and click the submit button.

☐ Select all products

seq_id	instrument	exposure	ra	dec	name	public date
RP400057N00	PSPCB	5021	19 58 21.60	+35 12 00.0	CYG X-1	1995-08-02
<input type="checkbox"/> Select all products in this group						
ROSAT PostScript Files						
<input type="checkbox"/> PostScript Plots (rp400057n00_prt.fits.Z) FITS 378 kB						
ROSAT Source Lists						
<input type="checkbox"/> PSPC Source List (rra) DIRECTORY 19 kB						
Calibration ROSAT Data Products						
<input type="checkbox"/> Exposure Map Image (rp400057n00_mex.fits.Z) FITS 239 kB						
Basic ROSAT Data Products						
<input type="checkbox"/> Basic Science Events (rp400057n00_bas.fits.Z) FITS 4759 kB						
<input type="checkbox"/> Uncorrected Events (rp400057n00_raw.fits.Z) FITS 3079 kB						
Ancillary ROSAT Data Products						
<input type="checkbox"/> Ancillary Housekeeping File (rp400057n00_anc.fits.Z) FITS 421 kB						
<input type="checkbox"/> Processing History (rp400057n00_his.fits.Z) FITS 40 kB						
Public Contents of ROSAT Sequence						
<input type="checkbox"/> Public Contents List (rp400057n00_public_contents.Z) ASCII 1 kB						
ROSAT GIF Images						
<input type="checkbox"/> Total Band Image (rp400057n00_im1.gif) GIF 15 kB						





What data are available

- **Swift data from standard processing (SDC) includes :**
 - Level 1,2,3 production data (by observation)
 - TDRSS messages
 - Trend and Monitoring data
- Populate the archive from the start (weekly delivery)
Available from the Quick-look & GCN area in the meantime
- **GRB Summary data products**
 - archived on a routine basis 5 months after launch
- **Surveys : XRT (ISAC), BAT (BAT team), UVOT (MSSL)**
 - Populate the archive not earlier than 1 yr into the mission with updates at least every 6 months



Data within an observation

	Level 1	Level 1a	Level 2
Event	XRT,UVOT, BAT*	XRT	XRT,UVOT BAT
Image	XRT, UVOT	UVOT	XRT,UVOT
Rates	BAT		
MaskTag	BAT		BAT
Survey	BAT		BAT
Housekeeping	XRT,UVOT, BAT		

- **Level 1**
reformatted data in
FITS with minimum
processing
- **Level 1a**
intermediate file
- **Level 2** calibrated
and screened using
standard parameters

* Only when detecting a burst

Level 3 high level products :

- Light curves, spectra and images (Fits) of the target
 - Each instrument produces specific set depending on the data mode
- GIF view of individual or combination of level 3 Fits products



TDRSS messages

For a given alert the following possible messages will be generated on board :

- BAT alert
- BAT ACK position
- BAT Nack no position
- FOM FOM will/will not AT
- FOM S/C will/will not AT
- BAT lightcurve
- XRT position
- XRT spectrum *
- XRT image*
- UVOT Finding chart *
- XRT centroid error
- UVOT subimage centered on the XRT position *
- BAT Scaled map

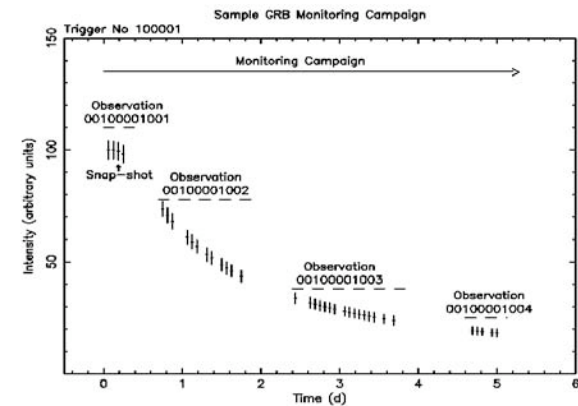
Broad-casted first via the GCN & later archived at the HEASARC & other archives

The * indicates that some ground processing is required before distribution



GRB summary products

- Put together after the afterglow faded away and organized by GRB
- Intended to give an overview & main characteristics of the GRB/afterglow
- Linked to the Swift GRB catalog
 - Derived from the original Swift data
 - Characteristic light curve, spectra and images
 - Or linked to existing products from the main processing
 - Manually checked
 - All data products are FITS and preview summary as GIF (packaged in a HTML file)





Calibration data & CALDB

- Swift Calibration data are stored in the Calibration Database (CALDB)
 - CALDB consists of data files containing either original measurements or derived products
 - CALDB is used by the reduction software
 - Updates in calibration files do not require software changes
- Swift CALDB files are generated by the Instrument Team:
 - delivered to the SSC and archived in CALDB by the HEASARC
- CALDB is available from the HEASARC FTP area and it can be:
 - Downloaded and Installed locally
 - Accessed remotely
- Dedicated Swift CALDB web page for information and data.



Calibration information access



Current CALDB release page
automatically generated at ingest time

Swift Calibration Files

This page contains a summary of the Swift Calibration files which are currently in the Swift Calibration Database (CALDB). For each instrument, each table links describing latest CALDB release and previous CALDB releases. The tables also contain links to the current CALDB data which users can install on their local machines, and other useful files.

For information about installing the CALDB for Swift or other missions, see the CALDB [Installation](#) page. Note that the *easiest* way to access calibration data for Swift or other HEASARC-supported missions is via [remote access](#).

BAT Calibration Products

Item	Date	Comments
Current CalDB Release	2004-05-26	
Previous CalDB Releases	2004-05-26	
Documentation	2004-05-26	
Retrieve TAR file		WARNING: Large file!
Response Matrix	2004-05-26	
Mask	2004-05-26	

XRT Calibration Products

Item	Date	Comments
Current CalDB Release	2004-05-26	
Previous CalDB Releases	2004-05-26	
Documentation	2004-05-26	
Retrieve TAR file		WARNING: Large file!

UVOT Calibration Products

Item	Date	Comments
Current CalDB Release	2004-07-07	Updated
Previous CalDB Releases	2004-05-26	Updated
Documentation	2004-05-26	
Retrieve TAR file		WARNING: Large file!



[Swift CALDB](#) >> SWIFT UVOT Calibration Files: 20040702

SWIFT UVOT Calibration Files: 20040702

The [CALDB Index File](#) describes the contents of each CalDB file.

Release Notes [SWIFT UVOT_20040702.bt](#)

CALDB File	CALDB Quality	Last Updated	CODE	Description
swubadpix20010101v001.fits	0	2004-07-02	BPTABLE	UVOTA BAD PIXELS, COLUMNS, & ROWS
swucntcor20010101v000.fits	0	2004-07-02	COINCIDENCE	COINCIDENCE LOSS CORRECTION
swueffarea20010101v000.fits	0	2004-07-02	EFFAREA	UVOT MIRROR ON-AXIS EFFECTIVE AREA
swulss20010101v000.fits	0	2004-07-02	SKYFLAT	LARGE SCALE SENSITIVITY OF UVOTA DETECTOR
swun2n20010101v000.fits	0	2004-07-02	LED	LED ILLUMINATION MAP
			TRANS	UVOTA MAGNIFIER TRANSMISSION
			RISMEQ	UVOTA UV GRISM EQUATION
			OLORTABLE	COLOR TRANSFORMATION COEFFICIENTS
			ET_POSCOR	NONLINEAR DISTORTION CORRECTIONS
			PECRESP	UVOTA UVM1 FILTER SPECTRAL RESPONSE

All information from a single page :

- current & previous CALDB releases
- documentation & essential files

First release by launch

<http://heasarc.gsfc.nasa.gov/docs/heasarc/caldb/swift>

Swift Workshop 7 sep 2004

Swift



Software distribution



- Swift software is written following the FTOOLS paradigm & distributed as one of the HEASoft components

Binary Distribution of the HEASOFT Software

The binary distribution consists of precompiled HEASoft software which can be run almost as soon as they are downloaded... some assembly is required. (See the [INSTALL.BINARY](#) file included in the package.) You need to select which computer system you are using and then which subpackages you want to download.

STEP 1 - Select your system:

- ☒ Linux (PC)
- ☐ Solaris
- ☐ Mac OS X 10.2.x (Jaguar)
- ☐ Linux (Mac)
- ☐ OSF
- ☐ Mac OS X 10.3.x (Panther)
- ☐ IRIX
- ☐ Cygwin ([see Important Note](#))

- [FTOOLS 4.2 for Windows](#)
- SunOS 4 and HP-UX 10 support has been [dropped](#).

STEP 2 - Download the desired packages:

If you experience problems using FTP to download this software, click [here](#). Alternatively, you may use your web browser to navigate our FTP directory by clicking [here](#). Click on the package names below for more information about a given package.

A - For [Swift](#) data analysis, you **MUST** have HEASOFT 5.3.1. Select one of the following 2 options:

- If you already have HEASOFT 5.3.1:

[download](#) - Contains the Swift software only

- If you do **not** already have HEASOFT 5.3.1:

[download](#) - Contains the Swift software and all of HEASOFT 5.3.1 (includes the complete FTOOLS, XANADU, & XSTAR)

- The Swift software development teams deliver software to the SSC for testing. The SSC then delivers to the HEASARC for distribution

- It now includes :

- 49 separate tasks specific to the BAT, XRT, UVOT data & 6 shared among the instruments
- The Swift data reduction re-uses many of the tasks already present in HEASoft

- Source code and Binary distributions from <http://heasarc.gsfc.nasa.gov/docs/software>

First release by launch , together with test data



Contributed data

- Swift GRBs will be followed by other observatories
- Recording the results from these observations will :
 - Help planning future Swift observations
 - Add value to the Swift data
 - Organized database for afterglow results
- **AKBAR : Astrophysical Knowledge Base for Analysis and Reporting**
 - Record results into pre-defined database table dedicated to a group
 - Web based user interface
 - Registration required
 - Input results are tagged into the database with the user ID
 - Links to external data
 - Allows to modify or discard table records if tagged by your User ID
 - Allows to search any records in the dedicated database.



AKBAR and Swift

- For Swift two databases have been implemented :
 - Burst Advocate : to record key parameters of the GRB/afterglow derived from Swift data
 - Swift Follow-up team member: to record results from other telescopes
- These databases will be made public on a regular base to be access via the Swift Browse interface.
- User contributed groups are also possible. If you are interested see:
<http://heasarc.gsfc.nasa.gov/akbar>



Akbar

HEASARC HOME OBSERVATORIES ARCHIVE CALIBRATION SOFTWARE TOOLS EDUCATION & PUBLIC INFO

Astrophysics Knowledge Base for Analysis and Reporting **AKBAR**

NASA's HEASARC: Archive

AKBAR HOME FAQ HELP

User ID:

Password:

Login

[Forgot User ID?](#)
[Forgot Password?](#)
[Request an account...](#)

For assistance please contact the [AKBAR Help Desk](#)

HEASARC HOME OBSERVATORIES ARCHIVE CALIBRATION SOFTWARE TOOLS EDUCATION & PUBLIC INFO

Astrophysics Knowledge Base for Analysis and Reporting **AKBAR**

NASA's HEASARC: Archive

AKBAR HOME FAQ HELP EDIT PROFILE CHANGE PASSWORD My AKBAR LOGOUT

Hello, DR. PHILIP J FRY.

Our records show that you are a member of the following AKBAR groups:

- [Swift Follow-Up Team \(SWIFTFUT\)](#)

For assistance please contact the [AKBAR Help Desk](#)

HEASARC HOME OBSERVATORIES ARCHIVE CALIBRATION SOFTWARE TOOLS EDUCATION & PUBLIC INFO

Astrophysics Knowledge Base for Analysis and Reporting **AKBAR**

NASA's HEASARC: Archive

AKBAR HOME FAQ HELP EDIT PROFILE CHANGE PASSWORD My AKBAR LOGOUT

[Enter new data](#)

-OR-

Modify recently entered data:

	grb_name ↓↑	observatory ↓↑	obs_start_date ↓↑ [UTC]	src_coord_ra ↓↑ [degree]	src_coord_dec ↓↑ [degree]	record_date ↓↑ [UTC]	
View	Modify	GRB 040820	EYE		158.55042	-30.23728	2004-08-20 15:51:55 Discard
View	Modify	GRB 040404	KWYJIBO	2001-11-12 13:14:15.1		2004-08-27 13:52:06	Discard
View	Modify	GRB 10202	ISAC			2004-09-02 20:17:58	Discard

[Show all records](#)

Search

via Browse engine ([Specify Any Parameter](#)):

GRB Name:

Source Position:

Observation Start:

Search

Reset

Search Term Help: ([Further Browse Help](#))



Akbar

HEASARC HOME OBSERVATORIES ARCHIVE CALIBRATION SOFTWARE TOOLS EDUCATION & PUBLIC INFO

Astrophysics Knowledge Base for Analysis and Reporting **AKBAR**

NASA's HEASARC: Archive

AKBAR HOME FAQ HELP EDIT PROFILE CHANGE PASSWORD My AKBAR LOGOUT

Verify

General Form

GRB Name

Data options

Send Notes and Input Results to GCN?

The results recorded in this form become part of the public archive in 30 days.

Do you wish to make results public now?

This flag defaults to "Y" if results are sent to the GCN.

GCN Notes

Observation Form

Magnitude

Filter	Mag	Error	Upper limit?	Conf level	Exposure	YYYY	MM	DD	HH	MM	SS.S
1 None	<input type="text"/>	<input type="text"/>	<input type="button" value="N"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2 None	<input type="text"/>	<input type="text"/>	<input type="button" value="N"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3 None	<input type="text"/>	<input type="text"/>	<input type="button" value="N"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4 None	<input type="text"/>	<input type="text"/>	<input type="button" value="N"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5 None	<input type="text"/>	<input type="text"/>	<input type="button" value="N"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6 None	<input type="text"/>	<input type="text"/>	<input type="button" value="N"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7 None	<input type="text"/>	<input type="text"/>	<input type="button" value="N"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8 None	<input type="text"/>	<input type="text"/>	<input type="button" value="N"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
9 None	<input type="text"/>	<input type="text"/>	<input type="button" value="N"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
10 None	<input type="text"/>	<input type="text"/>	<input type="button" value="N"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Observation Form

Observation Number: 1

Do you want to delete this observation?

Observatory Telescope Instrument FOV (arcsec) Seeing (arcsec)

Grating

Slit Width (arcsec) Wavelength Resolution (nm) Wavelength Start Wavelength Stop

Source Position

R.A. (2000) Dec. (2000)

All dates and times in this form are UT.

Start Date Stop Date
YYYY MM DD HH MM SS.S YYYY MM DD HH MM SS.S

Link to data (http or ftp URL)

Observation Note

Magnitude

Polarimetry

Redshift